# International Workshop on Primary Care Logistics









Bundesministerium für Bildung und Forschung

# Welcome

We are pleased to welcome you at the "International Workshop on Primary Care Logistics" at the Karlsruhe Institute of Technology.

Many countries worldwide already face a shortage of general practitioners (GPs) while due to the aging population demand is expected to be increasing even more. Therefore, new concepts are necessary that address this problem at all levels. Ideas include the design of collaborative group practices, the use of telemedicine and e-health, mobile practices serving rural areas as well as efficient appointment strategies.

The 'International Workshop on Primary Care Logistics' brings together practitioners and scientists from different research areas and creates an informal setting. The aim of this workshop is to openly discuss current and future opportunities and challenges for emergency medical services systems worldwide. This is an ideal setting, particularly for early career researchers, to present and discuss their current research.

Monday October 29 will show the (scientific) progress in the field. On Tuesday October 30 we will discuss open challenges, potential approaches and ideas for future collaborations.

We are very happy that on Tuesday morning Dr. Michael Seitz will speak about his experiences with founding and building up a collaborative GP practice. Since 2012 he has been co-managing the regional practice "Hausärzte am Spritzenhaus" in Baiersbronn and co-founded the "Ärzte am Reichenbach" GmbH in 2017.

We hope you enjoy the workshop and have a pleasant stay in Karlsruhe.

# **General information**

#### Venue

The workshop takes place in the seminar room 4A-09 on Kaiserstraße 89, close to the KIT campus and the city centre. If you like to join, we will have dinner on Monday in the restaurant "Marktlücke". For lunch on Tuesday we have chosen the restaurant "II Caminetto". Both restaurants are in close walking distance to the workshop venue. The seminar room includes a coffee machine, if you prefer other drinks several coffee places are close by.

#### **Public transport**

The public transport network of Karlsruhe consists of buses and trams and the city is easily reachable by train. Please be aware of the construction sites in Karlsruhe. We recommend to take tram 4 to take to the university (stop "Kronenplatz"). It departs in front of the train station. Also bus 10 takes you directly to "Marktplatz" leaving from the train station. From there, it is just a short walk to the workshop venue. To plan your journey, visit www.bahn.de for trains and www.kvv.de for public transport in Karlsruhe.

#### Car

If you travel by car, there are several possibilities to park your car in the city center. There is public parking underneath our building and additionally on the other side of the road, for example. Unfortunately, there is no free parking close by.

#### **Internet access**

The eduroam network is available at the workshop venue. Around the city you can use KA-WLAN for free.

#### **Contact information**

Melanie's phone number: +49 (0)174 6641826

### Programme

#### Monday, October 29

#### **Registration & Get-to-know**

#### Welcome and the NZ Health system

Melanie Reuter-Oppermann and Ilze Ziedins

Invited Talk
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### Machine Learning – Dangers and Definitions

Niklas Kühl

Talk 1

# Sharing Workplace: From Co-location to Integration *Nour Alrabie*

In 2007, new regulations were adopted in France to promote health care system among which the creation of Multi-Professional Health Homes. This form of organization gathers liberal primary care providers in one place expecting them to collaborate and to share a health project. Though, they have exceeded 1000 homes, only 14% are indeed collaborating. Through a practice perspective, this paper aims to understand the resulting dynamics of sharing workplace and to conceptualize around the leading pathway to collaboration focusing on some drivers and barriers and highlighting the role of coordination via a grounded theory (Strauss & Corbin, 1998). Data collection was conducted through an intensive field residency over a period of two weeks in April 2017. Besides field diary and internal documents, sixty interviews were conducted. Though an ongoing process of data analysis, we can report some preliminary results: First, the co-working practice seems to lead to collaboration passing through three overlapping and reversible phases that are informal communication, joint assessment and formal communication. The coordinator/community manager has a

13:00 - 13:30

13:30 - 14:00

14:45 - 15:30

14:00 - 14:45

crucial role to stabilize these pathways. Second, we have identified factors that might be qualified like drivers or barriers to collaboration. At this stage we divide them in two categories: intrinsic and interpersonal factors like personality, motivation, trust, outwork activities, leadership and hierarchy, the other category is that of extrinsic and environmental factors like architecture of physical space, number of co-workers, shared facilities and collaboration costs.

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15:30 - 16:15

# Optimized Appointment Scheduling in General Practitioner Practices

Sabrina Schmitz

General practitioners (GPs) have an important guiding function in the German health care system. In order to smooth the practice workflow, we consider in this talk the appointment scheduling of patients. This topic becomes increasingly important also from a patient perspective since long waiting times are the most common reasons for patients' complaints. However, an appointment scheduling policy focusing solely on short waiting times is disadvantageous for practice owners since they strive for a more productive and effective workflow which requires high utilization or rather a balanced utilization of GPs. To obtain a satisfactory trade-off for both patients and GPs, we develop a Mixed-Integer-Program which divides the GP's working time for chronic and regular patients with appointments as well as walk- ins. Furthermore, we introduce a concept of masks which provides templates to support decisions about the number of reserved appointments in advance for the corresponding patient type. Using this concept variation in treatment demands could be considered more easily by the practice employees. Finally, we test and evaluate our methods by means of simulation.

18:00 - end

#### **Panel Management**

Marlene Dickmann

An increasing demand for doctors' appointments leads to an increasing workload for physicians. On the one hand this increases the indirect waiting time for regular patients and on the other hand it becomes more difficult for new patients to enter the panel. We develop a model to address the following research question: Which patients should be added to the panel at what time so that the expected workload is as even as possible and the doctor's capacity will neither now nor in the future be exceeded or undercut?

The optimization problem presented in this paper pursues the goal that the workload caused by the panel decreases as evenly as possible over time if no new patients are added to the panel. Depending on the (non)inclusion of the initial situation in the doctor's office, three different model variants are explained. For an assessment of the quality of the optimization model to answer the initial question, first tests are carried out on the basis of sample data and the results are examined.

Wrap-up	17:00 – 17:45

Dinner
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Restaurant "Marktlücke" directly on the market square, less than 5 minutes walking from our building.

#### Thursday, September 20

#### Poster Session

**Invited Talk** 

Kooperation als bessere Basis der hausärztlichen Versorgung auf dem Land. Ein Rück- und Ausblick auf Versuche im Schwarzwald - von einer Idee 2010 bis zum Start der zweiten Praxis 2018

Michael Seitz

#### Lunch

We will have lunch at the restaurant "II Caminetto" which is 2 minutes walking from the venue.

Discussion Part 2 and Closing	13:30 – 15:00
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Summary of the workshop, the discussions and the ideas for future collaborations.

This part is optional, depending on the availability of participants.

If participants are interested, we can stay in the workshop room after the closing for deeper discussions, first paper drafts etc.

10:00 - 11:00

09:00 - 10:00

12:00 - 13:30

11:00 - 12:00

# **Programme at a glance**

	Monday, Oct 29 <sup>th</sup>	Tuesday, Oct 30 <sup>th</sup>
09:00 - 09:30		Poster Session
09:30 - 10:00		
10:00 - 10:30		Invited Talk
10:30 - 11:00		
11:00 - 11:30		Discussion
11:30 - 12:00		
12:00 - 12:30		
12:30 - 13:00		Lunch
13:00 - 13:30	Registration	
13:30 - 14:00	Welcome	Discussion
14:00 - 14:30	Invited Talk	Discussion
14:30 - 15:00		Closing
15:00 - 15:30		
15:30 - 16:00	Talks	
16:00 - 16:30		
16:30 - 17:00		
17:00 - 17:30	Wrop up	
17:30 - 18:00	Wrap-up	
18:00 - end	Dinner	